

TOP SECRET

1. In a microcontroller, a method of accessing a block of memory, comprising:
in response to an access request to the block of memory, ascertaining a security rule associated with the block of memory;
applying the security rule according to a security algorithm to determine if the access request is authorized; and
denying the access request in the event the access request is unauthorized.
2. The method according to claim 1, wherein the access request comprises one of a read request and a write request.
3. The method according to claim 1, wherein the memory block comprises one of a plurality of memory blocks.
4. The method according to claim 3, wherein the plurality of memory blocks comprise nonvolatile memory residing on the microcontroller.
5. The method according to claim 1, wherein the security rule comprises one of a plurality of security levels assigned to the block of memory, the security levels corresponding to ability of the processor to read or write to the block of memory.
6. The method according to claim 1, wherein the security rule comprises one of a plurality of security levels assigned to the block of memory, the security levels defining ability of a programmer to read or write to the block of memory.
7. The method according to claim 1, wherein the security rule comprises one of a plurality of security levels assigned to the block of memory, the plurality of security levels comprising levels which represent progressively greater security against unauthorized access to the block of memory.

1 8. A microcontroller having an electronic storage medium that stores
2 instructions which, when executed on a processor forming a part of the
3 microcontroller, carry out a process according to claim 1.
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1 9. In a microcontroller having an internal processor, a method of accessing
2 memory, comprising:

3 mapping a security level to each block of a plurality of memory blocks and
4 storing the mapping in a table;

5 in response to an access request to a specified block of memory,
6 determining the security level for the specified block of memory;

7 applying the a security algorithm using the security level to determine if the
8 access request is authorized by the algorithm; and

9 denying the access request in the event the access request is unauthorized.
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11 10. The method according to claim 9, wherein the security levels comprise a
12 plurality of levels which represent progressively greater security against
13 unauthorized access to the block of memory.
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15 11. The method according to claim 9, wherein the plurality of memory blocks
16 comprise nonvolatile memory residing on the microcontroller.
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18 12. The method according to claim 9, wherein the table is stored in a supervisory
19 nonvolatile memory on the microcontroller.
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21 13. The method according to claim 9, wherein the security algorithm is stored
22 in a supervisory read only memory on the microcontroller.
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